

Claims

- [c1] An overhead storage assembly, comprising:
 - a housing structure;
 - a first pair of track members slidably moveable with respect to the housing structure;
 - a second pair of track members slidably moveably with respect to the first pair of track members; and
 - a tray attached to the second pair of track members.
- [c2] The overhead storage assembly according to Claim 1, wherein the first pair of track members each have a length that is arcuate in shape.
- [c3] The overhead storage assembly according to Claim 2, wherein the second pair of track members each have a first length that is substantially linear in shape.
- [c4] The overhead storage assembly according to Claim 3, wherein the housing structure is attached to a headliner having a reference slope approximately equal to zero, and wherein the first pair of track members includes a positive slope, a zero slope, and a first negative slope, and wherein the first linear length of the second pair of track members has a second negative slope.

- [c5] The overhead storage assembly according to Claim 4, wherein the second negative slope is substantially equal to the reference slope of the headliner.
- [c6] The overhead storage assembly according to Claim 4, wherein the second pair of track members each include a second linear length.
- [c7] The overhead storage assembly according to Claim 6, wherein the second linear length includes a third negative slope with respect to the reference slope of the headliner.
- [c8] The overhead storage assembly according to Claim 7, wherein the third negative slope is substantially parallel to the reference slope of the headliner.
- [c9] The overhead storage assembly according to Claim 7, wherein the second negative slope is greater than the first negative slope, and wherein the third negative slope is greater than the second negative slope.
- [c10] The overhead storage assembly according to Claim 4, further comprising a tray housing, wherein the tray housing is located within an opening of the headliner such that an upper periphery lip of the tray housing rests upon an outboard surface of the headliner.

- [c11] The overhead storage assembly according to Claim 4, wherein the tray housing is fastened to an inboard surface of the headliner.
- [c12] The overhead storage assembly according to Claim 1, wherein the tray further comprises a latch mechanism located within a tray bezel that mechanically communicates with a handle located proximate a lower surface to permit manual unlatching of the tray from a pin attached to the housing structure.
- [c13] The overhead storage assembly according to Claim 1, wherein the housing structure further comprises a motor for driving a flexible member to automatically deploy the tray from a stowed position to a deployed position.
- [c14] The overhead storage assembly according to Claim 1, further comprising a pair of bracket members, and wherein the housing structure further comprises two pairs of rigid tab members including a substantially flat surface and an intermediate, semi-circular detent portion that bias two pairs of spring tabs located on opposing outboard surfaces at a fore end and an aft end of the tray to regulate deployment of the tray.
- [c15] An overhead storage assembly, comprising:
a housing structure;

a first pair of arcuate track members slidably moveable with respect to the housing structure by a first pair of bearings;

a pair of bracket members attached to the first pair of arcuate track members;

a second pair of track members each including a first linear portion, and a second linear portion, wherein the second pair of track members are slidably moveable with respect to the pair of bracket members by a second pair of bearings; and

a tray attached to the second pair of track members.

[c16] The overhead storage assembly according to Claim 15, further comprising a headliner having a reference slope, and wherein the pair of arcuate track members includes a positive slope, a zero slope, and a first negative slope with respect to the reference slope, and wherein the first linear portion includes a second negative slope with respect to the reference slope, and the second linear portion includes a third negative slope with respect to the reference slope.

[c17] The overhead storage assembly according to Claim 16, wherein the second negative slope is greater than the first negative slope, and wherein the third negative slope is greater than the second negative slope.

[c18] The overhead storage assembly according to Claim 16, wherein the third negative slope is substantially equal to the reference slope of the headliner.

[c19] A method for cycling a vehicular overhead storage assembly, comprising the step of:
slidably moving a tray from a stowed position to a deployed position, wherein the tray moves, in sequence, from a first position to a second position, and from the second position to a third position.

[c20] The method according to Claim 19 wherein the arranged slidable movement of the tray in the sequence is defined by a generally sinusoidal path, wherein the first position includes a positive slope, the second position includes a zero slope, and the third position includes a negative slope.

[c21] The method according to Claim 19, further comprising the step of:
extending the tray to an extended deployed position, wherein the tray moves, in sequence, from a forth position to a fifth position.

[c22] The method according to Claim 21, wherein the forth position includes a first negative linear slope, and the fifth position includes a second negative linear slope,

wherein the second linear slope is greater than the first linear